|   | Index of Claims |               |                 |          |          |           |          |          |          |          |               |         |                | Application/Control No. |          |          |          |                          |                |                  |          |               | A<br>R   | Applicant(s)/Patent under Reexamination |            |                    |          |           |            |           |           |           |           |          |  |  |
|---|-----------------|---------------|-----------------|----------|----------|-----------|----------|----------|----------|----------|---------------|---------|----------------|-------------------------|----------|----------|----------|--------------------------|----------------|------------------|----------|---------------|----------|---|------------|--------------------|----------|-----------|------------|-----------|-----------|-----------|-----------|----------|--|--|
|   |                 |               |                 |          |          |           |          |          |          |          |               | I       |                |                         |          |          | 1        | 10/543,177               |                |                  |          |               |          |   |            |                    |          |           | CHO ET AL. |           |           |           |           |          |  |  |
|   |                 |               |                 |          |          |           |          |          | H        |          |               |         |                |                         |          |          |          | Examiner                 |                |                  |          |               |          |   |            |                    | Art Unit |           |            |           |           |           |           |          |  |  |
|   |                 |               |                 |          |          |           |          |          |          |          |               |         |                |                         |          |          | L        | Laura L. Stockton, Ph.D. |                |                  |          |               |          |   |            |                    | 1626     |           |            |           |           |           |           |          |  |  |
|   | √ Rejected — (T |               |                 |          |          |           |          |          |          |          |               |         | Through numera |                         |          |          |          | al)                      |                |                  | Non-Elec |               |          | ted                                     |            | A                  | Appeal   |           |            |           |           |           |           |          |  |  |
|   | = Allow         |               |                 |          |          |           | wed      |          |          | ÷        | Restricted    |         |                | d                       |          |          |          |                          | Interference O |                  |          |               | Objected |   |            |                    |          |           |            |           |           |           |           |          |  |  |
| ſ | Claim           |               |                 |          |          |           |          |          | Date     |          |               |         | Claim          |                         |          |          |          | Dat                      |                |                  | e        |               |          |   | laim       |                    | Date     |           |            |           |           |           | $\neg$    |          |  |  |
| Ì |                 |               | वा गाँग         |          |          |           | Π        |          |          | t        |               |         |                | Τ                       | Γ        | Γ        |          | Ĺ                        |                | $\top \top \top$ |          |               |          | T                                       | $\neg$     | П                  | Ť        |           |            |           | Т         | ᅱ         |           |          |  |  |
|   | Final           | Original      | 8               |          |          |           |          |          |          |          |               |         | Final          | Original                |          |          |          |                          |                |                  |          |               |          | Final                                   | Original   |                    |          |           |            |           |           |           |           |          |  |  |
| Ì |                 | 0             | V,              |          |          |           |          |          |          |          |               | t       |                | 51                      |          |          |          |                          |                |                  |          |               |          |   | 101        |                    |          |           |            |           |           |           |           | コ        |  |  |
|   | -               | 3             | V,              |          |          |           | _        |          |          |          | $\Box$        | -       |                | 52<br>53                | ₽        | <u> </u> | <u> </u> |                          | <u> </u>       |                  |          |               |          | -                                       | 102<br>103 |                    |          | _         | -          | _         | _         | $\dashv$  |           | $\Box$   |  |  |
|   |                 | 4             | Ŏ.              |          | $\vdash$ | _         | H        | H        | -        | H        | $\dashv$      | ŀ       |                | 54                      | ╁╴       | ╁        | H        | $\vdash$                 | H              | _                |          | Н             |          |   | 103        | Н                  | _        | +         | $\dashv$   | -         | $\dashv$  | $\dashv$  | $\dashv$  | $\dashv$ |  |  |
| ļ |                 | 5             | V               |          |          |           |          |          |          |          |               |         |                | 55                      |          |          |          |                          |                |                  |          |               |          |   | 105        | П                  |          |           |            |           |           |           |           |          |  |  |
|   |                 | <u>6</u><br>7 | <b>V</b>        |          |          |           |          | _        | _        | _        | $\dashv$      | }       |                | 56<br>57                | ╀        | ┢        | L        |                          | -              | _                | _        | -             | _        | <u> </u>                                | 106        | Н                  | $\dashv$ |           | $\dashv$   | 4         | _         | $\dashv$  | 4         | 긕        |  |  |
| } |                 | 8             | Н               | Н        | Н        |           | Н        | H        | $\vdash$ | Н        | $\dashv$      | ŀ       |                | 58                      | ╁        | ╁        | ┢        |                          | H              |                  |          | Н             | -        | $\vdash$                                | 107<br>108 | +                  | $\dashv$ | -         |            | $\dashv$  | ᆉ         | $\dashv$  | -         | ᅱ        |  |  |
| Ì |                 | 9             |                 |          |          |           |          |          |          |          |               | Ĺ       |                | 59                      |          |          |          |                          |                |                  |          |               |          |   | 109        |                    |          |           |            | $\exists$ | 1         | T         | $\exists$ |          |  |  |
|   |                 | 10            |                 |          |          |           |          |          |          |          |               | Ĺ       |                | 60                      | L        |          |          | $\Box$                   |                |                  |          |               |          |   | 110        |                    | $\Box$   |           |            | $\Box$    | $\Box$    | $\Box$    | $\Box$    | $\Box$   |  |  |
|   |                 | 11<br>12      | $\vdash$        |          | $\vdash$ |           | Н        |          | H        | -        | $\dashv$      | ŀ       |                | 61<br>62                | ╁        | ╁        | ┝        | ┝                        | H              | $\vdash$         | $\vdash$ | ${\mathbb H}$ | $\dashv$ | -                                       | 111        | +                  | $\dashv$ | -         | $\dashv$   | $\dashv$  | ᆉ         | +         | $\dashv$  | $\dashv$ |  |  |
|   | -               | 13            |                 |          |          |           |          |          |          |          |               | ŀ       |                | 63                      | T        | 十        | $\vdash$ |                          |                |                  |          | H             | $\dashv$ | -                                       | 113        | $\vdash$           | $\dashv$ | $\dashv$  | $\dashv$   | 寸         | 7         | +         | ┪         | $\dashv$ |  |  |
|   |                 | 14            |                 |          |          |           |          |          |          |          |               | ſ       |                | 64                      |          | $\Box$   |          |                          |                |                  |          |               |          |   | 114        |                    |          |           |            | $\Box$    |           | $\Box$    | $\Box$    |          |  |  |
|   |                 | 15<br>16      | Н               |          |          |           |          |          |          | $\vdash$ | $\dashv$      | ŀ       |                | 65<br>66                | ╀        | ╀        | ┢        | ┢                        |                |                  |          | $\dashv$      | $\dashv$ | $\vdash$                                | 115<br>116 | $\vdash$           |          | -         | _          | 4         | -         | $\dashv$  | 4         |          |  |  |
|   |                 | 17            | -               |          | -        | -         | -        | -        |          |          | $\dashv$      | ł       |                | 67                      | +        | +        | H        | $\vdash$                 | -              |                  |          | $\vdash$      | $\dashv$ | $\vdash$                                | 117        | ╁┤                 | -        | $\dashv$  | -          | $\dashv$  | $\dashv$  | $\dashv$  | $\dashv$  | $\dashv$ |  |  |
|   |                 | 18            |                 |          |          |           |          |          |          |          |               | t       |                | 68                      |          | 上        |          |                          |                |                  |          |               |          |   | 118        |                    |          |           |            | $\exists$ | ╛         | $\top$    | $\exists$ |          |  |  |
|   |                 | 19            |                 |          |          |           |          |          | _        |          | _             | ŀ       |                | 69                      | $\perp$  |          | ļ        |                          |                |                  |          |               |          |   | 119        |                    |          |           |            | $\Box$    | $\Box$    | $\Box$    | $\Box$    |          |  |  |
| ŀ |                 | 20<br>21      | Н               |          |          | _         | Н        | $\vdash$ | H        | $\vdash$ | $\dashv$      | ŀ       |                | 70<br>71                | ╀        | ┼╌       | ┝        | $\vdash$                 |                |                  |          | $\dashv$      | $\dashv$ | $\vdash$                                | 120<br>121 | ┿┤                 | $\dashv$ |           | -          | $\dashv$  | -         | +         | $\dashv$  | -        |  |  |
| • |                 | 22            | П               |          |          |           |          |          |          | _        | $\overline{}$ | ŀ       |                | 72                      | t        | T        | $\vdash$ |                          |                | H                |          | $\vdash$      | $\neg$   | $\vdash$                                | 122        | Н                  | _        | $\dashv$  |            | $\dashv$  | $\dashv$  | $\dashv$  | $\dashv$  | _        |  |  |
|   |                 | 23            |                 |          |          |           |          |          |          |          |               |         |                | 73                      |          |          |          |                          |                |                  |          |               |          |   | 123        |                    |          |           |            |           |           |           |           |          |  |  |
| } |                 | 24<br>25      | Н               |          |          | _         |          |          |          |          | _             | ŀ       |                | 74<br>75                | -        | ╀        | ┡        | $\vdash$                 | _              | Н                | Н        | -             | 4        | <u> </u>                                | 124<br>125 | Н                  | $\dashv$ | 4         | 4          | 4         | _         | 4         | 4         | _        |  |  |
| } |                 | 26            | Н               |          |          | -         |          |          | -        | $\vdash$ | $\dashv$      | ŀ       |                | 76                      | ╁        | ╁        | ╁        | $\vdash$                 | -              |                  | -        |               |          | -                                       | 125        | Н                  | $\dashv$ | $\dashv$  | -          | +         | $\dashv$  | +         | $\dashv$  | $\dashv$ |  |  |
|   |                 | 27            |                 |          |          |           |          |          |          |          | $\exists$     | Ĺ       |                | 77                      |          |          |          |                          |                |                  |          |               |          |   | 127        | П                  | 7        | $\dashv$  | $\dashv$   | $\dashv$  | 寸         | $\dashv$  | 7         | ╡        |  |  |
|   |                 | 28            |                 |          | $\dashv$ | _         |          | _        | _        | Ш        | _             | L       |                | 78                      | L        | ↓_       |          | $oxed{oxed}$             |                |                  |          |               |          |   | 128        |                    | $\Box$   |           | $\Box$     | I         |           |           | _         |          |  |  |
| ŀ |                 | 29<br>30      | Н               |          |          |           | $\vdash$ | _        |          | -        | $\dashv$      | +       |                | 79<br>80                | ╀        | $\vdash$ | ┝        | $\vdash$                 |                |                  |          | -             | -        | -                                       | 129<br>130 | $\vdash$           | -+       | -         | $\dashv$   | $\dashv$  | +         | -         | +         | -        |  |  |
| į |                 | 31            |                 | $\neg$   |          |           |          | -        |          |          | -             | 卜       |                | 81                      | t        | 十        | ┢        |                          | -              |                  |          |               | $\dashv$ | -                                       | 131        | $\vdash$           | $\dashv$ | $\dashv$  | +          | $\dashv$  | $\dashv$  | +         | +         |          |  |  |
|   |                 | 32            |                 |          |          |           |          |          |          |          |               | F       |                | 82                      | Г        | $\prod$  |          |                          |                |                  |          |               |          |   | 132        |                    |          |           |            | $\Box$    |           |           |           |          |  |  |
|   |                 | 33<br>34      |                 | _        | $\dashv$ | ᅱ         | $\dashv$ | _        | H        | Н        | -             | -       |                | 83<br>84                | ╀        | ╀        | _        | -                        |                | Ш                |          | $\vdash$      | _        | -                                       | 133<br>134 | $\vdash$           | -        | -         | 4          | -         | 4         | -         | 4         | _        |  |  |
| ŀ |                 | 35            | Н               |          | $\dashv$ | $\dashv$  | -        |          |          | Н        | $\dashv$      | ŀ       | _              | 85                      | H        | ╁╌       | -        | Н                        | Н              |                  | Н        | $\dashv$      | -        |   | 135        | $\vdash$           | $\dashv$ | $\dashv$  | -          | $\dashv$  | $\dashv$  | +         | ┪         | $\dashv$ |  |  |
|   |                 | 36            |                 |          |          |           |          |          |          |          |               |         |                | 86                      |          |          |          |                          |                |                  |          |               |          |   | 136        |                    |          |           |            | 7         | $\exists$ | $\exists$ | 7         |          |  |  |
|   |                 | 37<br>38      | $\vdash$        | -        | _        | _         |          |          | _        |          | _             | $\perp$ |                | 87<br>88                | L        | ╄        | _        | Ш                        | Щ              |                  |          |               | _        |   | 137        |                    | 4        | _         | 4          | 4         | 4         | _[        | $\Box$    |          |  |  |
| ŀ |                 | 39            | $\vdash$        | $\dashv$ | -        | $\dashv$  | $\dashv$ | _        |          |          | $\dashv$      | }       |                | 89                      | ╀        | ┢        | _        |                          |                |                  |          | $\dashv$      | -        | -                                       | 138<br>139 | $\left  - \right $ | $\dashv$ | $\dashv$  | $\dashv$   | $\dashv$  | $\dashv$  | $\dashv$  | $\dashv$  | $\dashv$ |  |  |
| į |                 | 40            |                 |          |          | $\neg$    |          |          |          |          |               | t       |                | 90                      |          | $\vdash$ |          | П                        |                |                  |          |               | $\dashv$ |   | 140        |                    | $\dashv$ | +         | 寸          | $\dashv$  | $\dashv$  | $\dashv$  | ┪         | $\dashv$ |  |  |
| Ţ |                 | 41            |                 | $\Box$   | $\Box$   | $\Box$    | $\Box$   |          |          |          | $\Box$        |         |                | 91                      |          |          |          | П                        |                |                  |          | $\Box$        |          |   | 141        |                    | $\Box$   | $\Box$    | ゴ          | $\Box$    | $\Box$    |           |           | $\Box$   |  |  |
| } |                 | 42<br>43      | $\vdash \vdash$ | $\dashv$ | $\dashv$ | $\dashv$  | -        |          | _        |          | $\dashv$      | -       |                | 92<br>93                | ⊢        | ⊬        | -        | Н                        |                | $\Box$           |          | 4             |          | <u> </u>                                | 142<br>143 | $\vdash \vdash$    | 4        | -         | +          | -         | 4         | $\dashv$  | $\dashv$  | $\dashv$ |  |  |
| ŀ |                 | 44            | $\vdash$        | $\dashv$ | $\dashv$ | $\dashv$  | -        | $\dashv$ |          | $\dashv$ | $\dashv$      | t       | -              | 94                      | $\vdash$ | H        | $\vdash$ | Н                        | $\dashv$       |                  | $\dashv$ | $\dashv$      | $\dashv$ | $\vdash$                                | 143        | H                  | $\dashv$ | $\dashv$  | $\dashv$   | +         | $\dashv$  | $\dashv$  | +         | $\dashv$ |  |  |
| į |                 | 45            |                 |          |          |           |          |          |          |          |               |         |                | 95                      |          |          |          |                          |                | ⇉                |          | ╛             |          |   | 145        |                    |          | 丁         | 丁          |           |           |           |           | ╛        |  |  |
| ļ |                 | 46            | $\sqcup$        | _        | $\dashv$ | _         | $\dashv$ |          |          |          | $\dashv$      | F       |                | 96                      |          | L        | _        | $\sqcup$                 | $\Box$         | $\Box$           | $\Box$   | $\Box$        | _        |   | 146        | П                  | $\Box$   | $\Box$    | 1          | 1         | J         | Ţ         | $\dashv$  | $\Box$   |  |  |
| ŀ |                 | 47            | $\dashv$        | $\dashv$ | $\dashv$ | $\dashv$  | $\dashv$ | $\dashv$ |          | $\vdash$ | $\dashv$      | -       |                | 97<br>98                | $\vdash$ | ╁        | ┝        | H                        | $\dashv$       | $\dashv$         | $\dashv$ | $\dashv$      |          | -                                       | 147<br>148 | ╁┼                 | $\dashv$ | +         | $\dashv$   | +         | +         | +         | $\dashv$  | $\dashv$ |  |  |
| ŀ |                 | 49            |                 |          | _        | $\exists$ | _1       |          | H        |          | $\exists$     | 卜       |                | 99                      |          | $\vdash$ |          | H                        |                | ᅥ                |          | $\dashv$      | $\dashv$ | <u></u>                                 | 149        | $\vdash$           | $\dashv$ | $\dashv$  | $\dashv$   | +         | +         | $\dashv$  | $\dashv$  | $\dashv$ |  |  |
| [ |                 | 50            |                 | $\Box$   |          |           |          |          |          |          |               |         |                | 100                     |          |          |          |                          |                |                  |          |               |          |   | 150        | П                  | 士        | $\exists$ | $\dashv$   | $\dashv$  | 7         | $\top$    | 7         | ┪        |  |  |